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PRINT SERVER OVERVIEW

The purpose of this document is to give the user an overview for integrating the ZebraNet PS 4000 Print Server into their environment.

The ZebraNet PS 4000 Print Server is a transportable printing system providing connection of up to 4 printers. The system comes in a variety of configurations including:

- Stand alone print server providing connections of up to 4 USB or serial printers.
- Print server pre-configured with Zebra direct thermal or thermal transfer desktop printers.

Figure 1 shows a particular configuration of the print server with three 2 inch direct thermal Zebra printers.



Figure 1- ZebraNet PS 4000 Print Server With Three 2" Zebra Printers

Communication

The ZebraNet PS 4000 Print Server appears to a host computer as one IP address with the individual printers having unique port numbers. Therefore, printing is accomplished by directing print jobs to a particular printer through an IP address/port number combination.

Configuration

There are two areas of configuration for the ZebraNet PS 4000 Print Server: print server configuration and individual printer configuration.

Print Server Configuration

Print server configuration involves configuration of the print server making it available on the target network. This involves configuring network settings such as IP address, SSID, subnet mask, gateway, etc.

Individual Printer Configuration

Individual printer configuration involves settings for the individual printers. These settings include: port number, baud rate (serial printing only), and language (CPCL, ZPL, or EPL).

The Print Server Configuration Manager provides an easy interface for configuring the print server. This application is described in [Section 2](#).

References

1. EPL Programming Manual
2. CPCL Programming Manual
3. ZPL Programmers Manual

All of these reference documents are available at www.zebra.com

Print Server Integration

Integration of the ZebraNet PS 4000 Print Server involves configuring the server with the appropriate IP settings for the target network. Once configured, the printer exposes the connected printers through unique port numbers. Figure 2 shows a sample network using the ZebraNet PS 4000 Print Server.

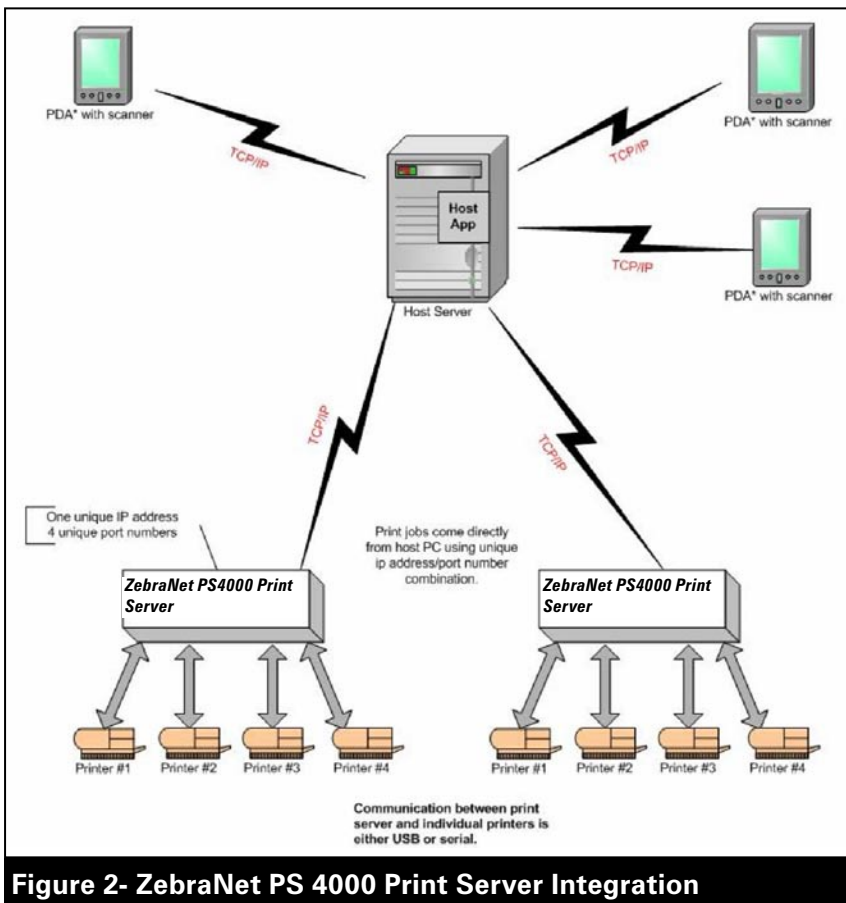


Figure 2- ZebraNet PS 4000 Print Server Integration

Programming Interface

Interfacing to the individual printers from a host application involves two parts: TCP/IP communication for the actual sending/receiving of data and knowledge of the target printers since each printer type supports its specific control language. References 2 and 3 describe the printer control language for EPL and CPCL based printers, respectively.

TCP/IP Communication

The individual printers are accessible via a unique IP address/port number combination. All four printers share the same IP address but are distinguished by their unique port number. The print server simply acts as a 'pass-through' between the host and printer. Therefore, any communication with a particular printer must use the control language for that printer.

EPL Printer Programming Example

The following is an example format file for an EPL base printer. Sending this data over the network to the IP address/port number for an EPL printer will result in a printed label.

```
N
US
UA
q406
Q163,B19+0
ZB
JF
N
A0100,18,0,3,2,2,N,"$15.00"
B088,58,0,1,2,4,60,N,"123456789"
P1
```



Note: Each line is separated by a Carriage Return/Line Feed combination which must be preserved when directing a print job to the printer.

See the EPL Programming Language Manual at www.zebra.com for a description of the printer control commands supported by EPL based printers.

ZPL Printer Programming Example

The following is an example format file for an ZPL base printer. Sending this data over the network to the IP address/port number for a ZPL printer will result in a printed label.

```

^XA
^MNN^PW408^LL600^LH0,0^FS
^LT0^MTD^F016,16^A0,25,0^FR^FD2288^FS
^F0152,32^A0,60,0^FR^FD22^FS
^F0215,12^A0,40,0^FR^FD88^FS
^F0307,12^A0,40,0^FR^FDR^FS
^F0120,94^A0,45,0^FR^FDMUFFLER1^FS
^F0250,140^A0,30,0^FR^FDMUFFLER1^FS
^F0250,165^A0,30,0^FR^FDZD180^FS
^F0250,200^A0,20,0^FR^FD010^FS
^F0290,205^A0,16,0^FR^FDP:^FS
^F012,156^BCN,50,Y,N,Y^FR^FD1234567^FS
^F024,85^GB360,50,4,^FS
^F0320,200^A0,24,0^FD5^FS
^XZ

```



Note: See the ZPL Programming Language Manual at www.zebra.com for a description of the printer control commands supported by EPL based printers.

CPCL Printer Programming Example

The following is an example format file for a CPCL base printer. Sending this data over the network to the IP address/port number for a CPCL printer will result in a printed label.

```
! 0 200 200 240 1
JOURNAL
CONTRAST 0
TONE 0
SPEED 3
PAGE-WIDTH 380
T 4 3 110 0 22
T 4 2 212 0 88
T 5 0 10 10 2288
T 4 0 340 0 R
T 5 1 110 86 MUFFLER
BOX 20 80 364 130 2
T 7 0 278 142 MUFFLER
T 7 0 306 164 ZD180
T 5 0 325 189 010
B UPCA 1 1 60 20 140 04364503284
T 5 0 30 203 043645032841
T 0 0 280 211 count: 0001
PRINT
```



Note: Each line is separated by a Carriage Return/Line Feed combination which must be preserved when directing a print job to the printer.

See the CPCL Programming Language Manual, available at www.zebra.com for a more complete description of the printer control commands supported by CPCL based printers.

Set/Get Commands

The Print Server supports the set/get interface for setting and retrieving various settings such as IP address, SSID, etc. The suite of set/get related commands are identified in the CPCL Programming Language Manual, available on-line at www.zebra.com. There are also set/get commands specific to the print server identified in Section 3.

A simple set/get example – printer port number:

Set the port number for printer 1:

```
! U1 setvar "print_server.printer1.ip_port" "6102"
```

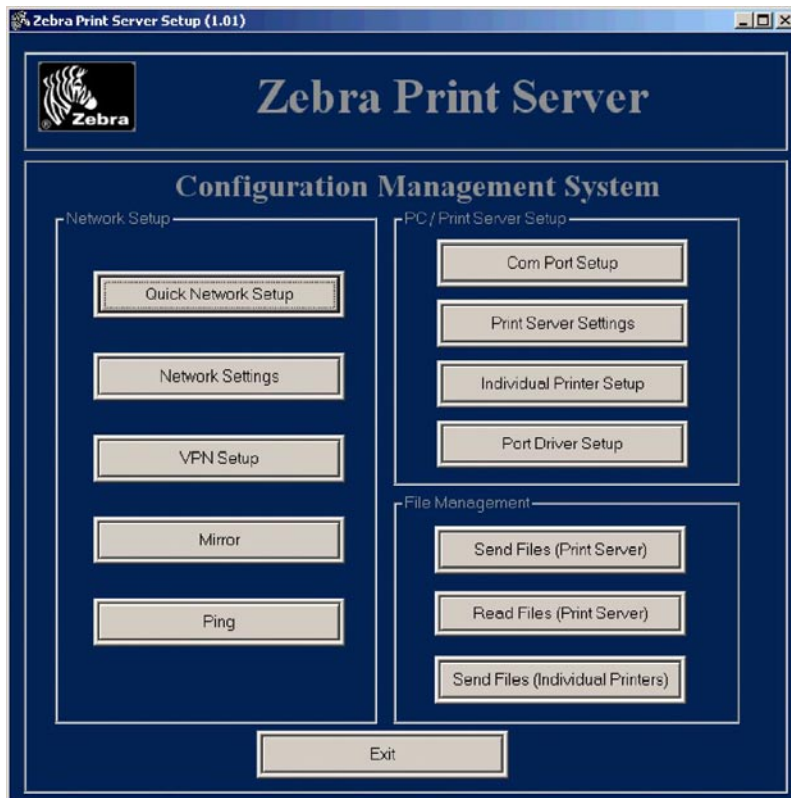
Get the port number for printer 1:

```
! U1 getvar "print_server.printer1.ip_port"
```

Zebra Port Driver

Communication to a printer requires installation of a printer driver. Once this installation is complete, the Zebra printer port driver is used to map the printer driver with the corresponding IP address/port number. This facilitates communicating to the printer from a host PC.

ZebraNet Print Server Configuration Management Application



Configuration Management System- Introductory Screen



NOTE: Clicking on a topic in the Introductory Screen illustration above will jump you to the corresponding topic in the manual.

Overview

The ZebraNet Print Server Configuration Management System is a Win32 stand-alone utility providing an interface to perform the initial network setup as well as maintain the network configuration of the print server.

This application is dialog based where the main dialog, or 'Main Menu', allows navigation to all related functions. The main dialog is divided into the following areas:

Network Setup – The operations available under Network Setup allow the user to perform all network related configuration and status for the printer server. The 'Network Setup' buttons include the following:

- Quick Network Setup
- Network Settings

[LAN Status](#)

[Network](#)

[RF Settings](#)

[Protocols](#)

[Encryption](#)

[Authentication](#)

[802.1x/WPA](#)

[POP3](#)

- VPN Setup
- Mirror
- Ping

PC / Print Server Setup – The operations available under PC/Print Server Setup include configuring the PC for communication with the

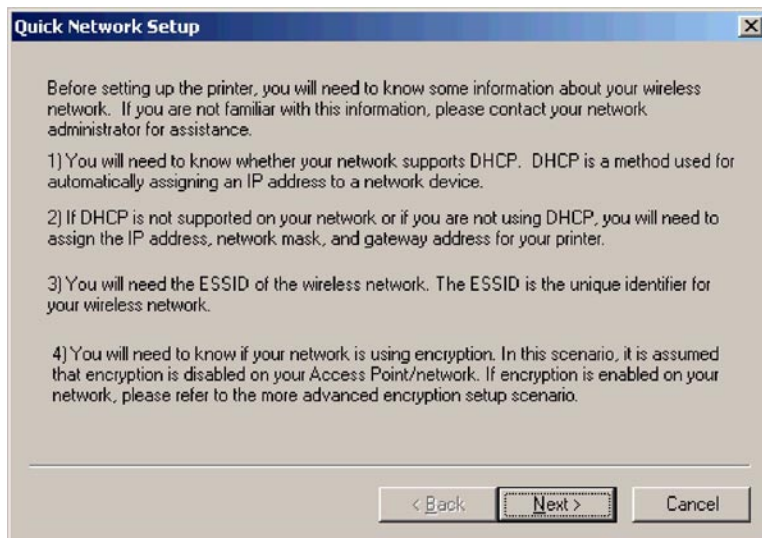
Printer Server as well as configuring the individual printers connected to the printer server. There is also an option to create a standard TCP/IP port in order to print from a PC to a printer that is connected to the Print Server. The PC / Print Server buttons include the following:

- Com Port Setup
- Print Server Settings
- Individual Printer Setup
- Port Driver Setup

File Management – The operations available under ‘File Management’ include the ability to send and receive files on the printer server as well as the ability to send files to the individual printers connected to the printer server. The ‘File Management’ section includes the following buttons:

- Send Files (Print Server)
- Read Files (Print Server)
- Individual Printers

The default operation of this configuration utility is to communicate with the printer via the serial port. Prior to doing any configuration of the print server, confirm the serial port baud rate used by this utility matches that of the printer. To check the baud rate used by this utility, select ‘Com Port Setup’ from the Main Menu.



Quick Network Setup

The ‘Quick Network Setup’ option walks the user through a series of dialogs that enable the user to select the network related settings of the print server. Following are the screens associated with ‘Network Setup’.

Screen 1: Quick Network Setup

ESSID

Enter ESSID of the access point that you would like to connect to?

ZEBRANET

If you do not know what ESSID of the access point you would like to connect, contact your network administrator.

< Back Next > Cancel

Screen 2: ESSID

ESSID- This screen allows the user to configure the Print Server to use the proper ESSID for your network.

Network Addresses

☒ Obtain an IP address via DHCP
☐ Specify an IP address

IP Address
[]

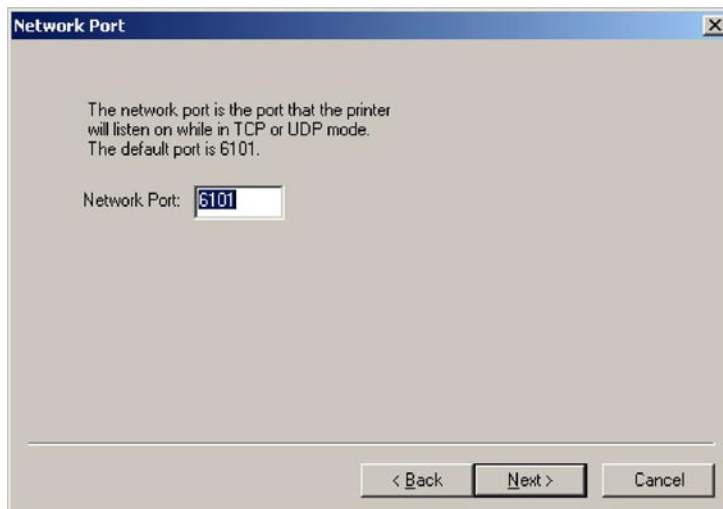
Subnet Mask
255 . 255 . 255 . 0

Default Gateway
[]

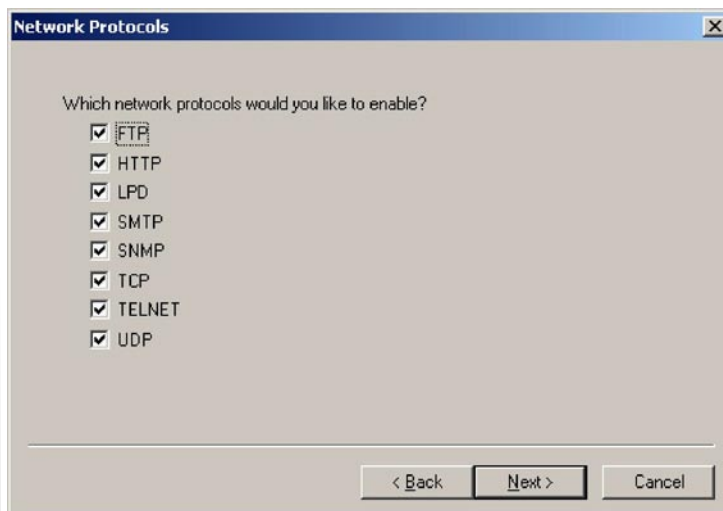
< Back Next > Cancel

Screen 3: Network Addresses

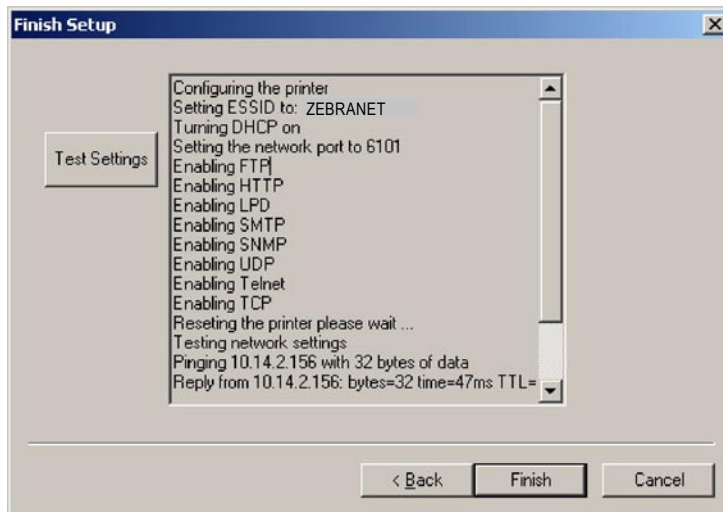
Network Addresses- This screen allows the user to configure the Print Server to use DHCP or assign a static IP address, Subnet Mask and Default Gateway.

**Screen 4: Network Port**

Network Port- This screen allows the user to enter the Network Port number used by the Printer Server. The default port number is 6101.

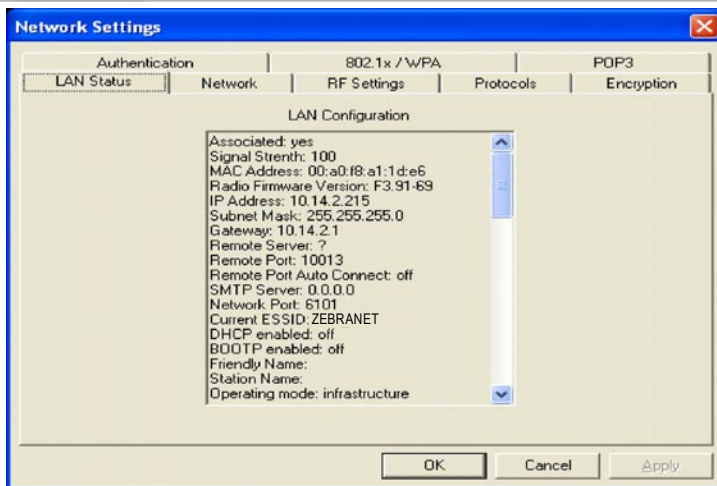
**Screen 5: Network Protocols**

Network Protocols- This screen allows the user to select which Network Protocols the Print Server will support.

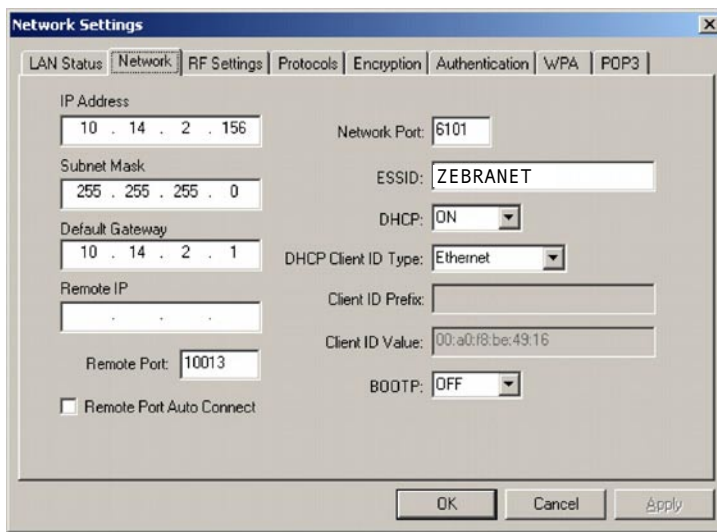
**Screen 6: Finish Setup**

Finish Setup- This screen sends all the Network configuration settings to the printer.

Select 'Test Settings' prior to pressing 'Finish'. The program confirms it can ping the Print Server using the network settings entered. This confirms the server is visible on the network.



LAN Status tab



Network tab

Network Settings

LAN Status tab-This section allows the user to view as well as change all network and security related settings.

Network tab- This screen displays the current Network settings for the print server. Changing any of the settings shown and pressing 'OK' will change the corresponding setting on the print server.

Network Settings

Authentication | 802.1x / WPA | POP3

LAN Status | Network | **RF Settings** | Protocols | Encryption

Friendly Name:

Station Name:

Operating Mode: INFRASTRUCTURE

Power Mode: BEST

Preamble Length: LONG

International Mode: OFF

OK Cancel Apply

RF Settings tab

RF Settings tab- This screen shows the current settings relating to the network radio on the print server.

Operating Mode: This option allows the user to change the operating mode of the print server's network radio. Options are:

- INFRASTRUCTURE
- AD HOC

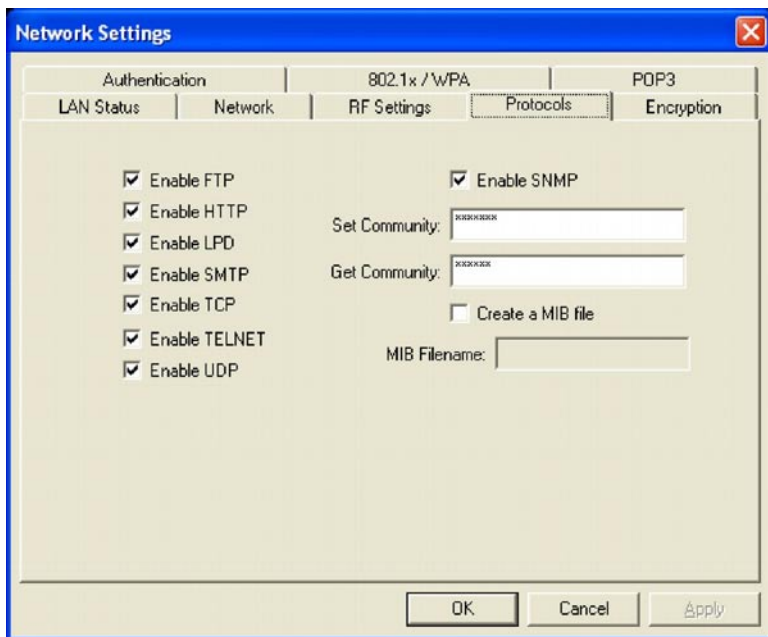
Power Mode: This option allows the user to select the power mode of the print server network radio. Options are:

- OFF
- 1
- 2
- 3
- 4
- BEST

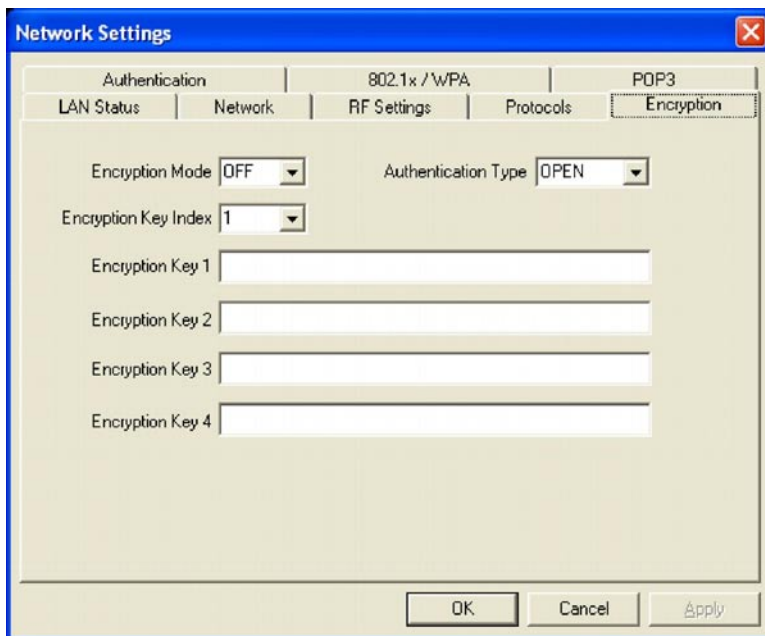
Preamble Length: This option allows the user to select the preamble length used by the network radio. This setting must match that for the access point. Options are:

- SHORT
- LONG

International Mode: This option allows the user to select the 'International Mode' setting used by the network radio. Improper setting of this option may result in being unable to associate with the access point.

**Protocols tab**

Protocols tab- This screen displays the current network protocols enabled on the print server. Changing any of these settings and pressing 'OK' will change that setting on the print server.

**Encryption tab**

Encryption tab- This screen allows the user to enable various modes of WEP encryption.

Encryption Mode: This option allows the user to select the desired WEP encryption modes. Options are:

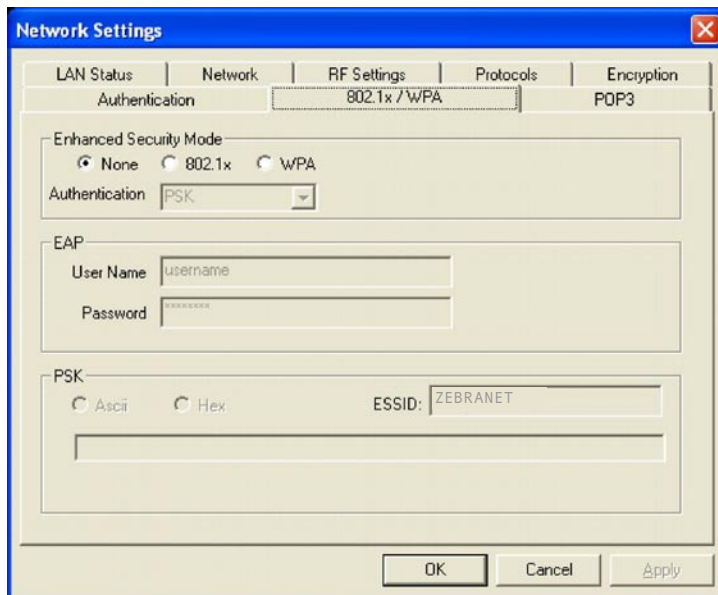
- OFF
- 40-Bit
- 128-Bit

Encryption Key Index: This option selects the appropriate key index to use with WEP encryption. This index corresponds to the Encryption Key used.

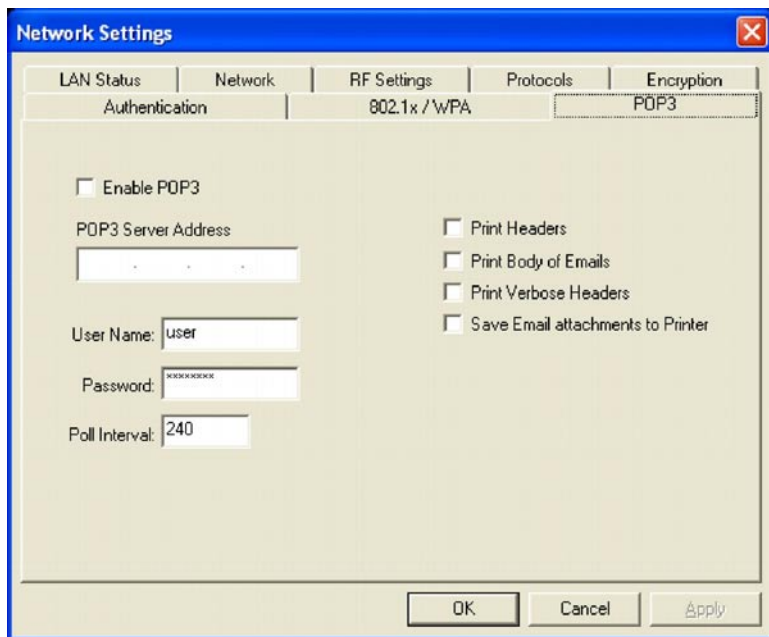
The screenshot shows a 'Network Settings' dialog box with a blue title bar and a close button. It has five tabs: 'LAN Status', 'Network', 'RF Settings', 'Protocols', and 'Encryption'. The 'Authentication' tab is selected, showing '802.1x / WPA' and 'POP3' options. The 'LEAP' section has a 'Use LEAP?' checkbox and fields for 'User Name' and 'Password'. The 'Kerberos' section has a 'Use Kerberos' checkbox and fields for 'User Name', 'Password', 'Realm', and 'KDC'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

Authentication tab

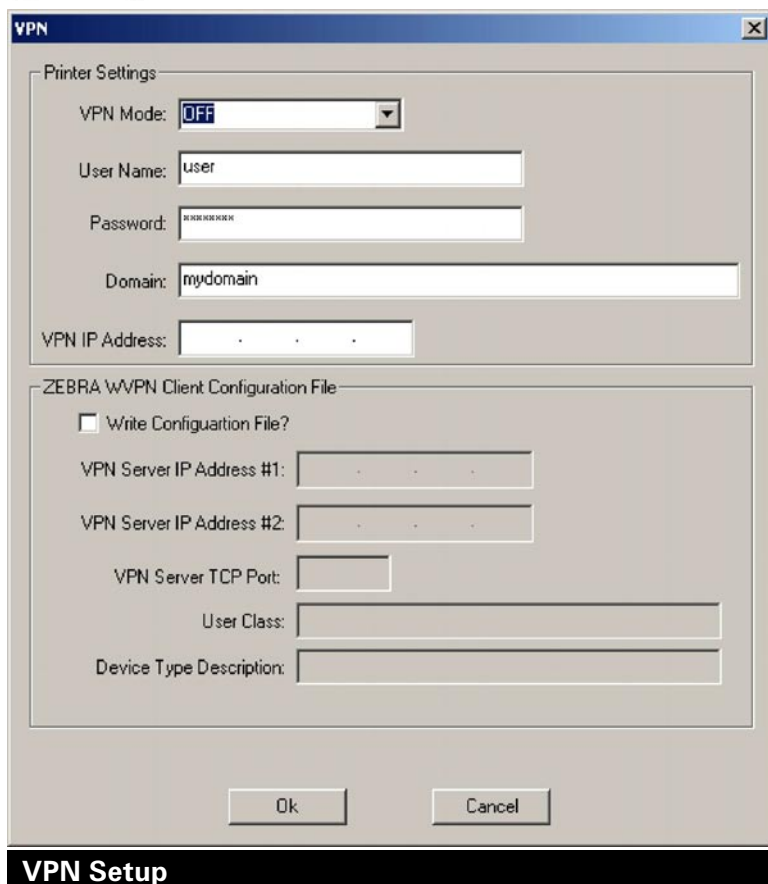
Authentication tab- This screen allows the user to select an authentication protocol to use with network communication. Options are: LEAP, Kerberos.

**802.1x/WPA tab**

802.1x/WPA tab-This screen allows the user to select various security modes to be used by the print server.

**POP3 tab**

POP3 tab- This screen allows the user to select/ configure POP3 related settings.



The image shows a 'VPN Setup' dialog box with a title bar containing a close button. The dialog is divided into two main sections. The top section, titled 'Printer Settings', contains a 'VPN Mode' dropdown menu set to 'OFF', a 'User Name' text field with 'user', a 'Password' text field with a masked password, a 'Domain' text field with 'mydomain', and a 'VPN IP Address' text field with three dots. The bottom section, titled 'ZEBRA WVPN Client Configuration File', contains a checkbox for 'Write Configuration File?' which is unchecked. Below this are five text fields: 'VPN Server IP Address #1' and '#2' (both with three dots), 'VPN Server TCP Port' (empty), 'User Class' (empty), and 'Device Type Description' (empty). At the bottom of the dialog are 'Ok' and 'Cancel' buttons.

VPN

Printer Settings

VPN Mode: OFF

User Name: user

Password: [masked]

Domain: mydomain

VPN IP Address: . . .

ZEBRA WVPN Client Configuration File

☐ Write Configuration File?

VPN Server IP Address #1: . . .

VPN Server IP Address #2: . . .

VPN Server TCP Port:

User Class:

Device Type Description:

Ok Cancel

VPN Setup

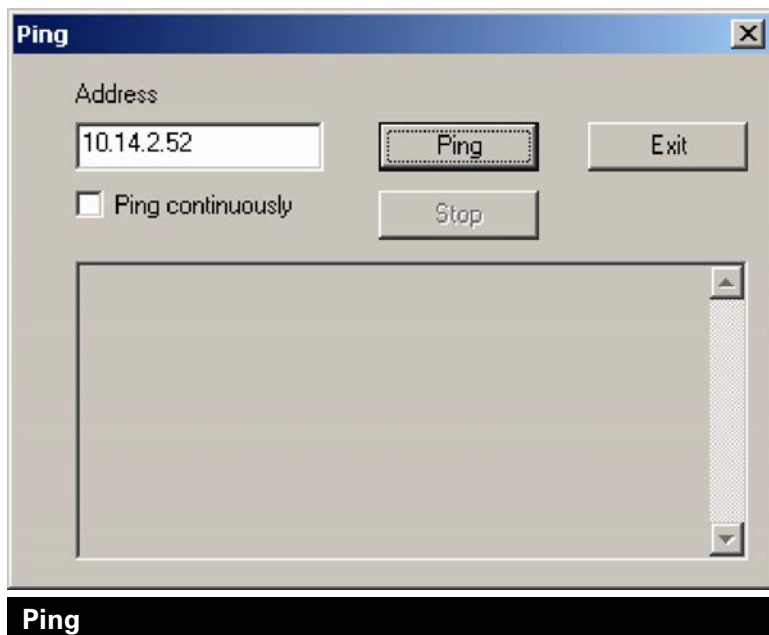
VPN Setup- This screen allows the user to configure the VPN settings to be used by the print server.

The screenshot shows a window titled "Mirror" with a close button (X) in the top right corner. The window contains the following fields and controls:

- Server: 127.0.0.1
- Username: user
- Password: xxxxxxxx
- Path: Zebra
- ☐ Auto
- Frequency: 0 In minutes
- Buttons: Save Settings, Run Mirror, Exit

Below the window, the word "Mirror" is displayed on a black background.

Mirror- This screen allows the user to configure the Mirror setting to be used by the print server.



Ping- This screen allows the user to ping a network device. This is not limited to pinging only the print server but any reachable network device from this PC.

Communication Port

Port
NETWORK TCPIP

Serial Setup
Baudrate
115200
Parity: None
Data Bits: 8
Stop Bits: 1

Network Setup
TCPIP Address: 10 . 14 . 2 . 52
Port Number: 6101

OK Cancel

Com Port Setup

Com Port Setup-This screen configures the test application for the appropriate communication medium when communicating with the print server.

Port: This selects the method for communicating with the printer server. Options are:

- COM1
- COM2
- NETWORK TCPIP
- NETWORK LPD

Serial Setup: These options are only applicable if the Port setting is configured for either 'COM1' or 'COM2'. These options determine the settings used by the PC to communicate via the serial port to the print server. These settings must match that for the print server.

Network Setup: These options are only applicable if the Port setting is configured for 'NETWORK TCPIP' or 'NETWORK LPD'. These options identify the IP setting for the print server. The PC application uses these setting to communicate with the print server.

Print Server Settings

Printer Status

General | Port | Battery | Flash

Printer: Zebra PS2144 V10.00 01/03/06 58C7

Date: N/A

Time: N/A

Set Printer Date/Time

OK Cancel Apply

General tab

Printer Status

General | Port | Battery | Flash

Port: COM1

Network Setup
TCP/IP Address: 10 . 14 . 2 . 118

Port Number: 6101

Serial Setup
Baudrate: 115200
Parity: None Data Bits: 8 Stop Bits: 1

DTR Power Off
☒ Enabled ☐ Disabled

Xon/Xoff
☐ Enabled ☒ Disabled

OK Cancel Apply

Port tab

Printer Status

General | Port | Battery | Flash

Battery Enable: on

Battery SW Ver.: Version 1.0

Low Battery Warning: 11.00V

Battery Life: 50%

Battery Voltage: 12.06V

Printer 1 Power: on

Printer 2 Power: on

Printer 3 Power: on

Printer 4 Power: on

OK Cancel Apply Help

Battery tab

Printer Status

General | Port | Battery | Flash

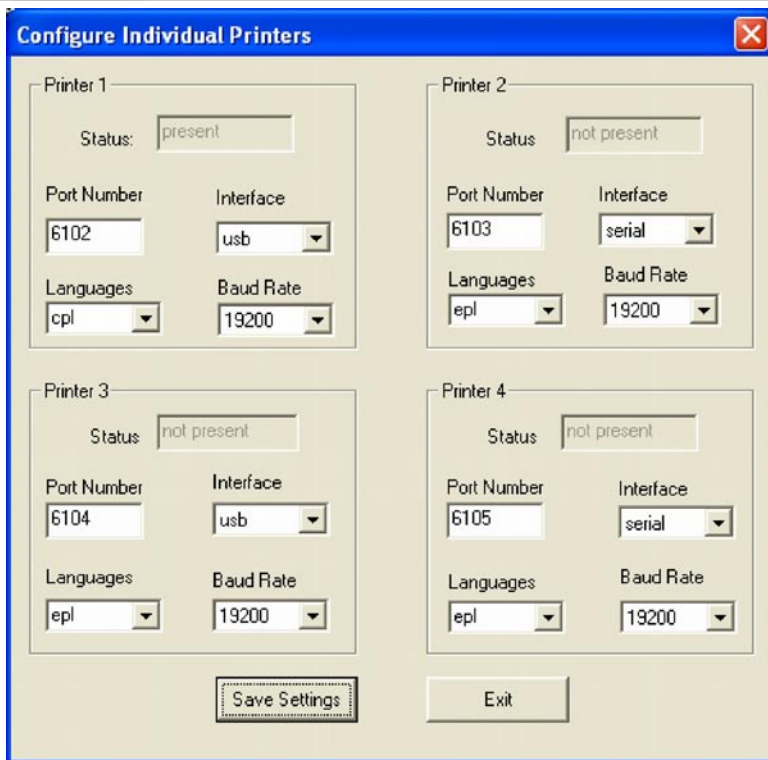
ROM Checksum: 58C7

Flash Write Count: 1324

NVM Size: 8192 bytes

OK Cancel Apply

Flash tab



The dialog box titled "Configure Individual Printers" contains four sections for Printer 1, Printer 2, Printer 3, and Printer 4. Each section has a Status field, Port Number, Interface, Languages, and Baud Rate. Printer 1 is set to "present", Port 6102, USB, cpl, and 19200. Printers 2, 3, and 4 are set to "not present", Ports 6103, 6104, and 6105 respectively, Serial, epl, and 19200. Buttons for "Save Settings" and "Exit" are at the bottom.

Printer	Status	Port Number	Interface	Languages	Baud Rate
Printer 1	present	6102	usb	cpl	19200
Printer 2	not present	6103	serial	epl	19200
Printer 3	not present	6104	usb	epl	19200
Printer 4	not present	6105	serial	epl	19200

Individual Printer Setup

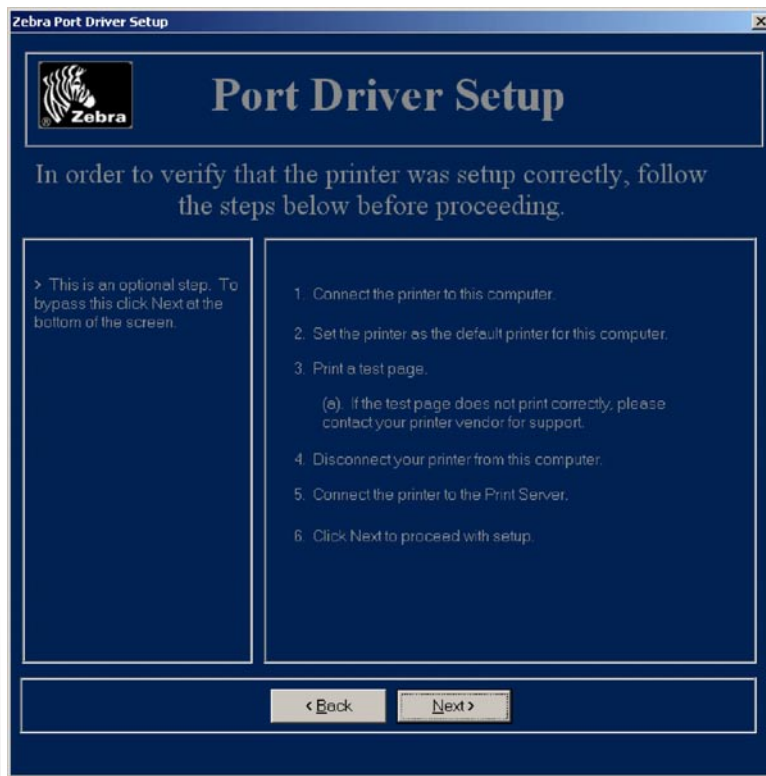
Individual Printer Setup- This dialog box presents the current configuration for the 4 possible printers.

Port Driver Setup

Screen 1: Printer Driver Verification (Windows XP/2000 only)- The Port Driver Setup process creates a standard TCP/IP port which interfaces to any printer connected to the Print Server (for which there is a printer driver installed locally).

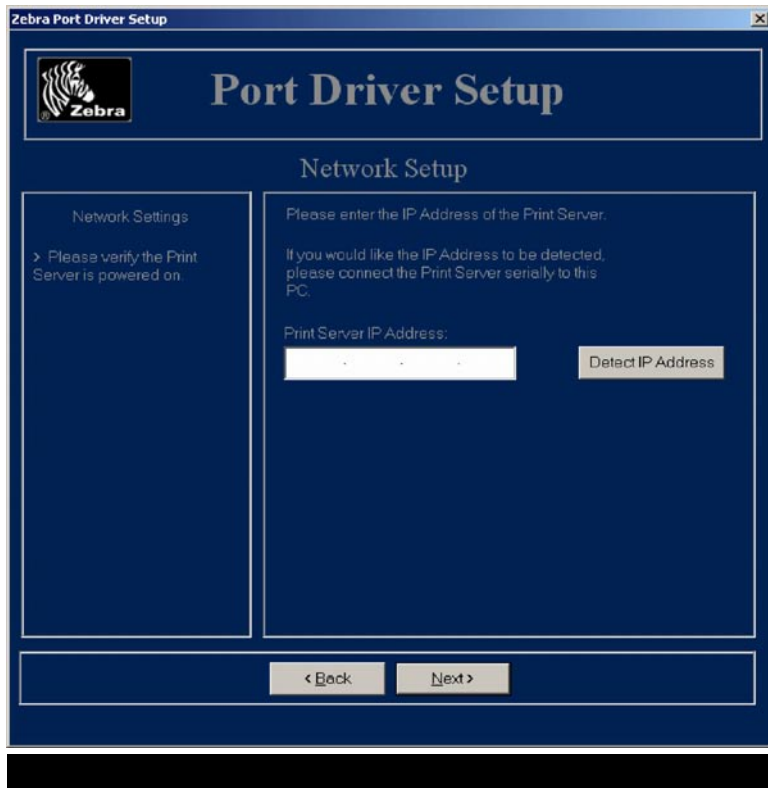


Note: Before continuing with the Port Driver Setup, please verify that all printer drivers are installed for the printer(s) that will be used for printing.

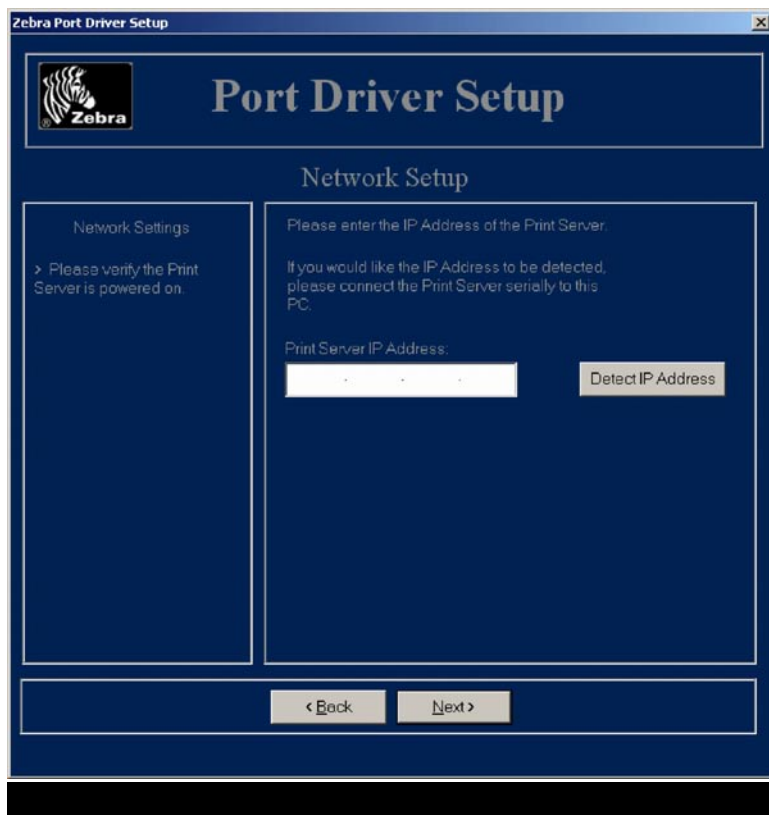


This initial screen of the Port Driver Setup is used to verify the printer driver was installed properly for the printer that will be used when printing from the PC to the Print Server. Following these steps is optional but recommended.

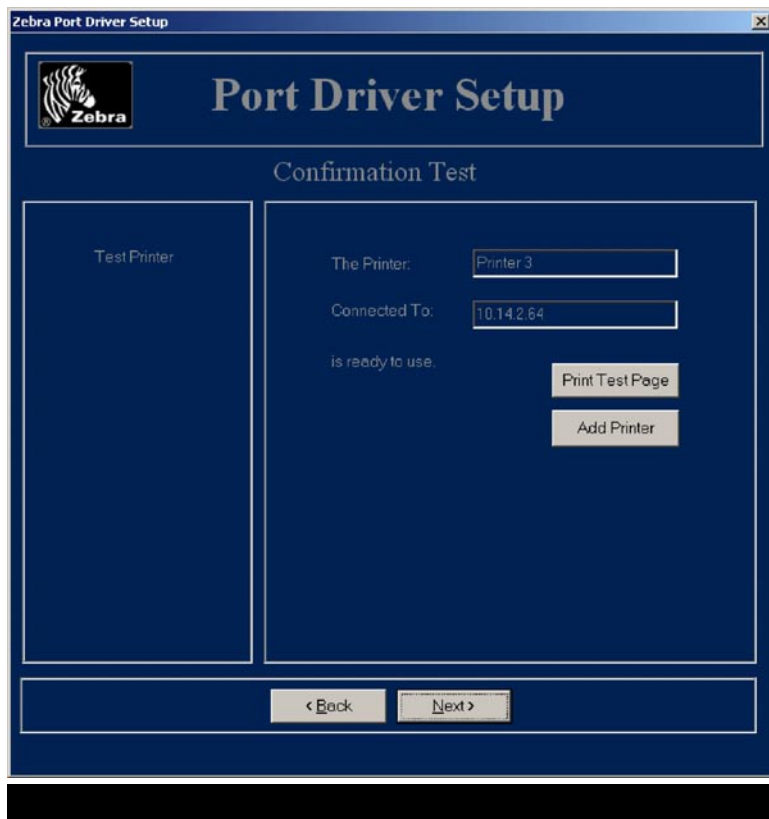
Screen 2: Network Setup



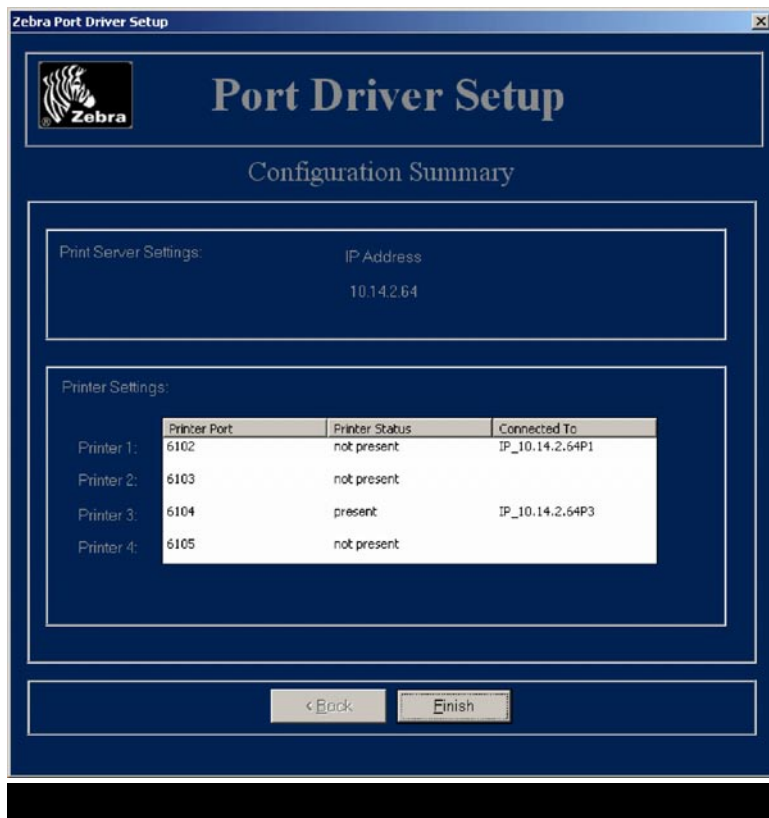
Network Setup- The Network Setup screen represents the Print Server's IP Address. If the IP Address is known then it can be entered into the IP Address field. Otherwise, with the Print Server connected via serial port, the IP Address can be detected. In either case, the Print Server must be powered on.



Printer Driver Selection- This screen is used to choose the corresponding printer driver of the printer that will be used when printing from the PC to the Print Server.



The Confirmation Test Page screen allows a test page to be printed via TCP/IP to a printer connected to the Print Server.



Port Driver Summary- This screen is a summary of the Port Driver Setup process.

File Management

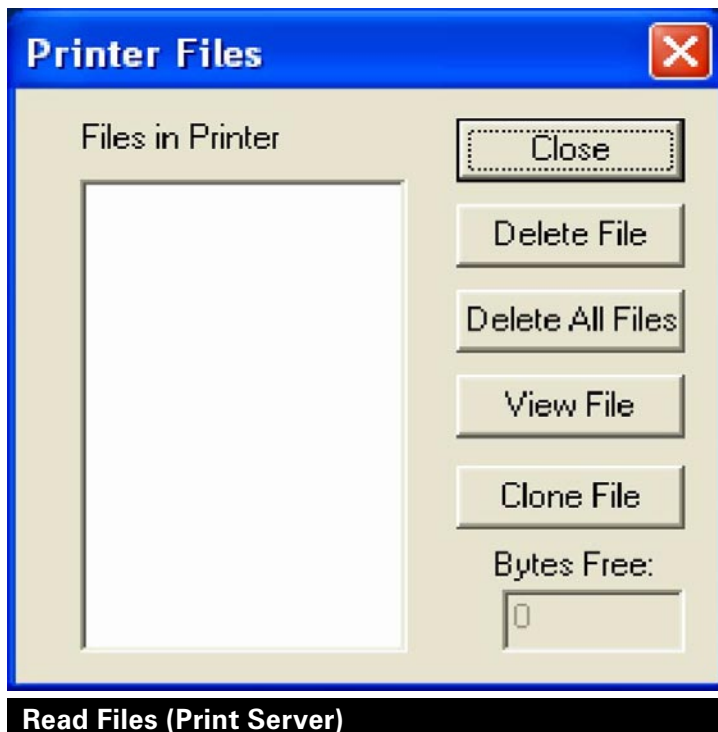
Send File [X]

File to Send:

Flash File Name to use in printer:

☐ Store to flash file system

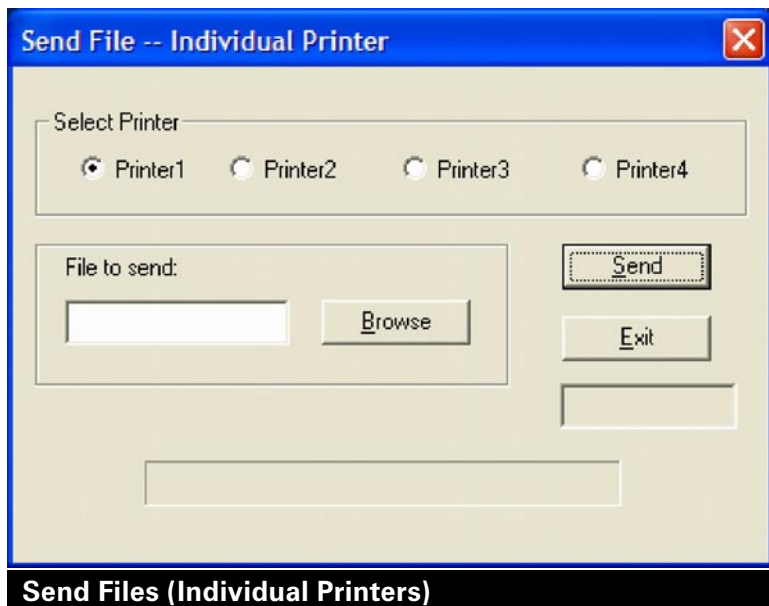
Send Files



Read Files (Print Server)- When the 'Read Files (Print Server)' button is selected, the following dialog appears:

If the print server is properly connected to the PC, the list of files currently stored in the print server's flash file system will appear. This dialog also provides the following features related to file management of the print server files:

- *Delete File:* Highlighting a file then selecting 'Delete File' will remove that file from the printer's file system.
- *Delete All Files:* Selecting this button will remove all files from the printer's file system.
- *View File:* Highlighting a file then selecting 'View File' will display the contents of the selected file. Note: Only ASCII files will be displayed properly.
- *Clone File:* Highlighting a file then selecting 'Clone File' will allow the user to make a copy of that file on the PC. A file dialog box will appear allowing the user to specify a name and location to make a copy of the file.



PRINT SERVER SET/GET COMMANDS, VERSION 0.1

print_server.enable

Type: *getvar, setvar*

getvar result	"on" or "off"	
setvar choices	"on" or "off"	
	Default	"on"
Example	Description	Enables or disables the print server application
	Syntax	! U1 SETVAR "print_server.enable" "on"
	Result	Enables print server operation
Example	Description	Returns the current state of enable
	Syntax	! U1 GETVAR "print_server.enable"
	Result	"on"

print_server.halt_queue

Type: *getvar, setvar*

getvar result	"on" or "off"	
setvar choices	"on" or "off"	
	Default	"off"
Example	Description	Command is used to temporarily halt the print server queue for administrative purposes.
	Syntax	! U1 SETVAR "print_server.halt_queue" "on"
	Result	Halts the print server queue
Example	Description	Returns the current state of halt_queue
	Syntax	! U1 GETVAR "print_server.halt_queue"
	Result	"on"

print_server.printerX.ip_port

Type: *getvar, setvar*

Sets the IP port number that will be associated with the corresponding print queue. X is the print queue that the ip_port number is associated with. X can be 1, 2, 3, or 4. The IP port number is what the print server uses to uniquely identifies each printer. If data is to be sent to printer 1 then open up a TCP connection with the print server's TCP address on printer 1's IP port number.

getvar result	The current ip_port value for print queue X where X is 1, 2, 3, or 4.	
setvar choices	"1" -"65535"; excluding the current IP.port value, 20, 21 (used for FTP), 23 (used for telnet), 80 (used for HTTP), and 515 (used for LPD).	
Default		6102 – printer 1 6103 – printer 2 6104 – printer 3 6105 – printer 4
Setvar example	Description	Sets printer 1's IP port number to 6102
	Syntax	! U1 SETVAR "print_server.printer1.ip_port" "6102"
	Result	N/A
Getvar example	Description	Returns printer 2's IP port number.
	Syntax	! U1 GETVAR "print_server.printer2.ip_port"
	Result	"6103"

print_server.printerX.language

Type: *getvar*, *setvar*

Sets the programming language of the printer connected to print queue X where X can be 1, 2, 3, or 4. This command allows different types of printers be connected to the print server at the same time. "Other" is used to designate a non-Zebra printer.

getvar result	"cpl", "epi", "zpl", or "other"	
setvar choices	"cpl", "epi", "zpl", or "other"	
	Default	"epi"
Example	Description	Sets the printer language of the printer connected to print queue 1 to EPL
	Syntax	! U1 SETVAR "print_server.printer1.language" "epi"
	Result	N/A
Example	Description	Returns the language setting for print queue 2.
	Syntax	! U1 GETVAR "print_server.printer2.language"
	Result	"epi"

print_server.printerX.baudrate

Type: *getvar, setvar*

Sets the baud rate of a serial printer connected to print queue X where X can be 1, 2, 3, or 4.



NOTE: This command is only valid for serial printers.

getvar result	9600, 19200, 38400, 57600, 115200	
setvar choices	9600, 19200, 38400, 57600, 115200	
	Default	19200
Example	Description	Sets the baud rate of the serial printer connected to print queue 1 to 115200 bps.
	Syntax	! U1 SETVAR "print_server.printer1.baudrate" "115200"
	Result	N/A
Example	Description	Returns the baud rate of the serial printer connected to print queue 2.
	Syntax	! U1 GETVAR "print_server.printer2.baudrate"
	Result	"19200"

print_server.printerX.status

Type: *getvar*

Returns the status of the printer connected to print queue X where X can be 1, 2, 3, or 4.

getvar result	"present" or "not present"	
Example	Description	Returns the status of the printer connected to print queue 1.
	Syntax	! U1 GETVAR "print_server.printer1.status"
	Result	"present"

print_server.printerX.interface

Type: *getvar*, *setvar*

Sets the physical interface between the print server and the printer for printer X where X can be 1, 2, 3, or 4. This setting **MUST** match specific configuration for the print server. If this parameter is not set correctly the print server will not be able to communicate with the attached printer.

getvar result	"serial" or "usb"	
setvar choices	"serial" or "usb"	
	Default	"usb"
setvar example	Description	Sets the interface for printer 1 to serial
	Syntax	! U1 SETVAR "print_server.printer1.interface" "serial"
	Result	N/A
getvar example	Description	Returns the current state of the interface for printer 2
	Syntax	! U1 GETVAR "print_server.printer2.interface"
	Result	"usb"

print_server.battery.enable

Type: *getvar, setvar*

Setting the enable “on” causes the print server to initialize the serial connection between the Zebra LA-24 battery and the print server. This will allow the print server to monitor the battery level and power the connected Zebra printers on and off.

getvar result	“on” or “off”	
setvar choices	“on” or “off”	
	Default	“off”
Setvar example	Description	Initializes the connection between the LA-24 battery and the print server
	Syntax	! U1 SETVAR “print_server.battery.enable” “on”
	Result	N/A
Getvar example	Description	Returns the current state of the battery.enable function
	Syntax	! U1 GETVAR “print_server.battery.enable”
	Result	“on”

print_server.battery.life

Type: *getvar*

Returns the percentage of battery life remaining

getvar result	0 – 100 %	
Example	Description	Returns the remaining battery life percentage
	Syntax	! U1 GETVAR “print_server.battery.life”
	Result	78

print_server.battery.voltage

Type: *getvar*

Returns the current voltage level of the battery.

getvar result	Battery voltage	
Example	Description	Returns the current voltage level of the battery
	Syntax	! U1 GETVAR "print_server.battery.voltage"
	Result	"11.94V"

print_server.battery.low_bat_warning

Type: *getvar, setvar*

Returns or sets the voltage level at which the LA-24 battery system will report low battery.

getvar result	"10.00V"	
setvar choices	"10.00"	
Example	Description	Sets the low battery voltage warning level
	Syntax	! U1 SETVAR "print_server.battery.low_bat_warning" "10.00"
	Result	N/A
Example	Description	Returns the current low battery voltage warning setting
	Syntax	! U1 GETVAR "print_server.battery.low_bat_warning"
	Result	"10.00V"

print_server.battery.printerX_pwr

Type: *getvar, setvar*

Turns the power to printer X on or off, where X is either 1, 2, 3, or 4.

getvar result	"on" or "off"	
setvar choices	"on" or "off"	
Example	Description	Turns the power to printer 3 on
	Syntax	! U1 SETVAR "print_server.battery.printer3_pwr" "on"
	Result	N/A
Example	Description	Returns the current power state of printer 3
	Syntax	! U1 GETVAR "print_server.battery.printer3_pwr"
	Result	"on"

print_server.battery.serialno

Type: *getvar*

Returns the serial number of the LA-24 battery.

getvar result	"XXXXXX-XX-XXXX"	
Example	Description	Returns the battery serial number
	Syntax	! U1 GETVAR "print_server.battery.serialno"
	Result	"XXXX05-03-0157"

print_server.battery.swver

Type: *getvar*

Returns the software version of the LA-24 Battery pack.

getvar result	"1.00"	
Example	Description	Returns the current battery software version
	Syntax	! U1 GETVAR "print_server.battery.swver"
	Result	"1.00"

USBH Set/Get Commands, Version 0.1

usbh.enabled

Type: *getvar*

getvar result	"yes" or "no"	
Example	Description	Indicates if the usbh stack is operational
	Syntax	! U1 GETVAR "usbh.enabled"
	Result	"yes"

usbh.p1_active

Type: *getvar*

getvar result	"yes" or "no"	
Example	Description	Returns the current state of printer 1
	Syntax	! U1 GETVAR "usbh.p1_active"
	Result	"Yes" if present, "No" if not present

usbh.p2_active

Type: *getvar*

getvar result	"yes" or "no"	
Example	Description	Returns the current state of printer 2
	Syntax	! U1 GETVAR "usbh.p2_active"
	Result	"Yes" if present, "No" if not present

usbh.p3_active

Type: *getvar*

getvar result	"yes" or "no"	
Example	Description	Returns the current state of printer 3
	Syntax	! U1 GETVAR "usbh.p3_active"
	Result	"Yes" if present, "No" if not present

usbh.p4_active

Type: *getvar*

getvar result	"yes" or "no"	
Example	Description	Returns the current state of printer 4
	Syntax	! U1 GETVAR "usbh.p4_active"
	Result	"Yes" if present, "No" if not present

usbh.p1_status

Type: *getvar*

getvar result	"###" – USB Printer Device Class GET_PORT_STATUS result (hex)	
Example	Description	Returns the GET_PORT_STATUS result for printer 1
	Syntax	! U1 GETVAR "usbh.p1_status"
	Result	"18" if present and no errors, "38" if out of paper



Note: The result returned is what is returned by the printer.

usbh.p2_status

Type: *getvar*

getvar result	"###" – USB Printer Device Class GET_PORT_STATUS result (hex)	
Example	Description	Returns the GET_PORT_STATUS result for printer 2
	Syntax	! U1 GETVAR "usbh.p2_status"
	Result	"18" if present and no errors, "38" if out of paper



Note: The result returned is what is returned by the printer.

usbh.p3_status

Type: *getvar*

getvar result	"###" – USB Printer Device Class GET_PORT_STATUS result (hex)	
Example	Description	Returns the GET_PORT_STATUS result for printer 3
	Syntax	! U1 GETVAR "usbh.p3_status"
	Result	"18" if present and no errors, "38" if out of paper



Note: The result returned is what is returned by the printer.

usbh.p4_status

Type: *getvar*

getvar result	"##" – USB Printer Device Class GET_PORT_STATUS result (hex)	
Example	Description	Returns the GET_PORT_STATUS result for printer 4
	Syntax	! U1 GETVAR "usbh.p4_status"
	Result	"18" if present and no errors, "38" if out of paper



Note: *The result returned is what is returned by the printer.*

usbh.check_status

Type: *getvar, setvar, do*

getvar result	"Yes" or "No"	
setvar choices	"Yes" or "No"	
	Default	"Yes"
Example	Description	Indicates if the Print Server should poll printers for status.
	Syntax	! U1 SETVAR "usbh.check_status" "yes"
	Result	With this set, the Print Server will periodically request status from the printer. This status request is the USB Printer Device class GET_PORT_STATUS request. If the printer is in an error condition, the LED is disabled.

usbh.read_enabled

Type: *getvar, setvar, do*

getvar result	"Yes" or "No"	
setvar choices	"Yes" or "No"	
Default		"Yes"
Example	Description	Indicates if the Print Server should poll printers for data coming from a printer.
	Syntax	! U1 SETVAR "usbh.read_enabled" "yes"
	Result	With this set, the Print Server will periodically ask connected printers for any data. The server does this by issuing a USB BULK-IN request. If a printer is bidirectional, the only way the server knows if there is any data coming from a printer is to request data.

usbh.read_interval

Type: *getvar, setvar, do*

getvar result	"###" – Frequency of read requests	
setvar choices	"###" – Number in milliseconds between 1 and 20000 (20 seconds).	
Default		"1000"
Example	Description	Indicates the frequency the Print Server polls printers for data coming from a printer.
	Syntax	! U1 SETVAR "usbh.read_interval" "1000"
	Result	This indicates how frequently the Print Server will request data from a printer.

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